

# *Black-necked Cranes*

(*Grus nigricollis*)



Your guide to the  
thrung thrung karm,  
the heavenly birds



## Introduction

The Black-necked Cranes (*Grus nigricollis*; *Grus*: Cranes, *Nigri*: black, *collis*: neck) are the least known and the last one to be discovered of the fifteen species of cranes in the world. First discovered in 1876 by a Russian naturalist, Przezhwalsky in lake Kokonor in the northeast corner of the Tibetan Plateau. The Black-necked Cranes are globally significant because of its limited number and small distribution range. For this reason, the Black-necked Cranes are recorded as “vulnerable” under the IUCN Red List Category and Criteria (2007).

The Black-necked Crane is endemic to the Tibetan Plateau and the adjacent regions in the Himalayas to the south and Yunnan-Guizho plateau to the east. The cranes breed in high altitude alpine wetland in spring and summer, and migrate to lower altitudes in autumn.

The global population of Cranes is estimated to be 11,000 (2007, Mary B.) of which about 500 of them winter in Bhutan every year.

## The Appearance

<p><b>Size:</b> Approx. 1.5m tall</p> <p><b>Wing span:</b> 606-5-623mm</p> <p><b>Tarsus:</b> 231.7-247.4mm</p>
--







## Adults

**Crowns:** They have bare red crowns and lores are sparsely covered by black hair like feathers.

**Head:** The rest of the head and the upper part of the neck are black, except for a small white or light gray spot extending back ward from the rear and lower edges of each eye.

**Body:** The body is ashy gray, becoming almost whitish on the under parts.

**Tail:** The tail is black, and the upper tail coverts are grayish.

Both the male and female are alike. However, the female is slightly smaller than male. The primaries and secondaries are black.

## Juveniles

They have yellow brown feathers on the crown, and a gray abdomen. Primaries and secondaries are black, the feathers of the back are grayish yellow, and black and white feathers alternate on the neck. By one year of age the bird resembles an adult.





## Habitat

During the breeding season Black-necked Cranes use high altitude wetlands. Foraging occurs in shallow marshes, streams, and pastures. The cranes winter in lower elevation agricultural valleys where they feed mainly on waste grains. In both breeding and wintering areas Black-necked Cranes are quite tolerant of people and regularly feed near human settlements and domestic livestock, perhaps because local religious beliefs protect them across much of their range.

## Behavior

The Black-necked Cranes, engage in unison calling, which is a complex, and extended series of coordinated calls. The birds stand in a specific posture, usually with



their heads thrown back and beaks skyward during the display. Females usually initiate the display and utter two calls for each male call. Cranes also engage in dancing, which includes various behaviors such as bowing, jumping, running, stick or grass tossing, and wing flapping. Dancing can occur at any age and is commonly associated with court ship, however, it is generally believed to be a normal part of motor development for cranes and can serve to thwart aggression, relieve tension, and strengthen pair bonding.

Nests are built on small, pre-existing grassy islands or in water, and consist of mud, grass, sedges, and other aquatic plants. Females usually lay two eggs and incubation (by both sexes) lasts 30-33 days. The male takes the primary role in defending the nest against possible danger. Chicks fledge (first flight) at approximately 90 days.



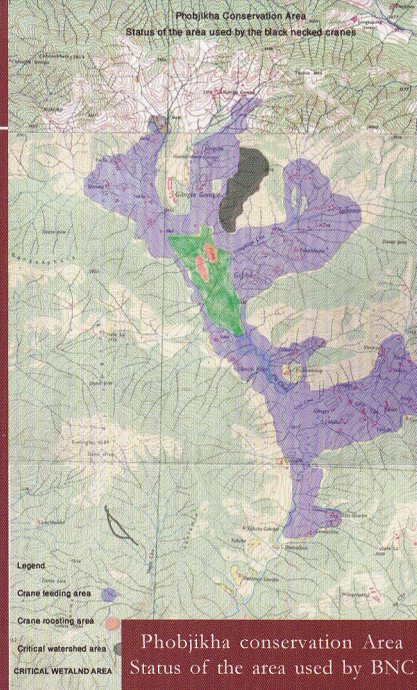


## Diet

All cranes are omnivorous. Black-necked Cranes forage on plant roots and tubers, insects, snails, fish, frogs, lizards, voles, and waste grains.

## Distribution range

The range of the Black-necked Crane stretches across the Qinghai-Tibetan Plateau east to Cao Hai Lake on the Yunnan - Guizhou Plateau. The species breeds at elevations of 2950-4900 m in the Qinghai-Tibetan Plateau, from Ladakh (India) east to northern Sichuan Province. Black-necked Cranes winter at lower altitudes (1900-3950 m) on the Qinghai-Tibet Plateau, on the Yunnan-Guizhou Plateau, in western central and northeastern Bhutan, and in northwest Arunachal Pradesh, India. Very small numbers were recorded in Hadong Province in northern Vietnam earlier this century. The majority of Black-necked Cranes winter in south-central Tibet in the Nyang, Lhasa, and Pengbo river valleys and along the middle reaches of the Yarlung Zsangbo.





## Threats

Loss and degradation of habitat are the main threats facing the Black-necked Cranes. The problems are most serious in the wintering areas, where wetlands are extensively affected by human activity including irrigation, dam construction, draining, and grazing pressure. In Tibet, widespread changes in traditional agricultural practices have reduced the availability of waste barley and spring wheat.

Global warming is another factor that can affect the survival of cranes in the long run. Crane experts like Dr. Bishop has indicated that while global warming may lead to recovery of crane population in the short term, long term implication may be different. Climate change could lead to reduced water and less wetland areas for the cranes to nest (2007, Mary B.)

## Cranes in Phobjikha

### The Habitat

Phobjikha valley with 162 km<sup>2</sup> area is Bhutan's largest wetland making it the most favored wintering habitat of Black-necked cranes in the country. Its importance has been acknowledged by the government by officially



Legend

✓ Rivers and Stream  
Wetland Boundary  
Wetland Area  
Settlement

2 0 2 4 Kilometers





designating it as the Conservation area. The Phobjikha valley constitutes the heart of Phobjikha Landscape Conservation Area (PLCA) that encompasses the habitat for another globally threatened bird, the White-bellied Heron. The PLCA adjoins the northwest boundary of the Jigme Singye Wangchuk National Park making it one contiguous area of conservation. The valley is one of the four non-breeding winter habitats of the Black-necked Cranes in Bhutan. Other smaller habitats include Bumthang, Khotokha, and Bumdeling in Trashiyangtse.

### Arrival

The Black-necked Cranes arrive Bhutan towards the last week of October, depending on the weather conditions over the Himalayas. Usually by the end of December most of the Black-necked cranes would have arrived in the country. More than 300 cranes spend their winter in Phobjikha every year. The population in the valley has been increasing steadily since 1987 with slight variations in some years. The arrival of cranes in Phobjikha also signal end of the harvesting season and the time for local communities in Phobjikha to move towards lower altitude where it is warmer.





## Cranes and the people

The Black-necked Cranes commonly known as 'thrung-thrung karm' has a sacred identity in Bhutanese culture and often cited in the folklore, dances, and other historical texts. The crane festival annually organized by the local communities in Phobjikha reinforces the importance of cranes in the lives of the local people.

Historically it is referred as the 'heavenly birds' because of their beauty and elegance and symbolism of long life/longevity.

### Threats to the Cranes in Phobjikha

The ultimate threats to the Black-necked Cranes and its habitat could come from modern development. Already most of the wetlands in Phobjikha and in other parts of Bhutan are converted for agricultural and infrastructural purposes posing a long-term threat to the survival of the birds and other associated species.





Under the traditional farming practices fallen grains from the harvest in October would remain undisturbed until April, providing food for cranes. With increasing trend for mechanized farming, winter months may become a farming season as well, restricting the feeding areas for cranes. In Phobjikha, the threat is intensified by increasing use of chemical fertilizers in the farms. This could eventually lead to changes in plant successional patterns consequently altering the characteristics of the crane habitat.

Unplanned development that increases the density of people and houses, with added vehicles and roads would continue to pose a direct and indirect threat to the fragile habitat of the bird. This is evident from the example of previous habitats like Bajothang, where the cranes do not winter there anymore, and Bumthang where the population of cranes has dropped considerably in the last 20 years.

With Phobjikha becoming increasingly accessible through roads and communication facilities, number of tourists is also increasing invariably. This would intensify disturbance to the cranes and its habitat, threatening the survival of crane in the long run.

The Black-necked Cranes share their habitat with the local people in the valley. Therefore maintaining the needs of both the bird and the human population is becoming challenging. For instance, the roosting ground of the crane



is one of the favorite grazing land for the local cattle. Continuing this practice for a long term can hamper the carrying capacity of the wetland, creating a precarious situation for the survival of the cranes.

Finally, the subtle, but potentially significant threat lies in the changing perceptions of the local people that may undermine the cultural values that has been protecting these cranes till now. Erosion of the people's goodwill towards the cranes could lead to insensitive development and a rapid degradation of its habitat.

## **Conservation efforts**

Recognizing the significance of the endangered Black-necked Cranes both globally and nationally, RSPN embarked into the mission of crane conservation in as early as 1987. RSPN's effort started with a very simple activity of monitoring crane population in Phobjikha. Since then, the conservation program has evolved into a more meaningful and consolidated effort. Some of the main activities relating to crane conservation are outlined below:

### **Transboundary migratory study**

Transboundary migratory study is perhaps one of the major crane conservation programs that RSPN has embarked on. It was initiated in as early as 1998, in collaboration with the International Crane Foundation mainly to study the migration route and locate the summer breeding areas







of the Black-necked Cranes wintering in Bhutan by using a technique called the satellite telemetry. In the long run, the study will facilitate transboundary conservation program with Tibet for ensuring sound habitat both in the summer and winter homes.

### **Habitat study of the cranes**

Habitat study is another important aspect of crane conservation undertaken by RSPN. The study is intended to help understand habitat preference by cranes. In the long run, the study will also serve as a basis for understanding the interaction between human land use and habitat use by the cranes in the valley. Crane-human interaction and its implication would be crucial for habitat conservation.

### **Black-necked Crane monitoring**

In order to determine relative abundance and distribution of the Black-necked Crane, crane counting is carried out annually in all the wintering habitats of the country. The activity also helps to keep vigilance on external threats to the cranes and its habitat.

### **Rehabilitation of crane roosting areas**

In order to maintain safe and comfortable roost area for cranes, annually activities are carried out to develop artificial ponds, clear the roost areas and restor damaged ponds etc.





### **Sustainable livelihood**

Apart from the research activities, RSPN considers the participation of local people as an important factor for success of conservation efforts. As in many parts of Bhutan, challenges and threats to bio-diversity conservation are associated with increasing development aspirations of the people in the valley. Keeping this in mind, several programs integrating environment and development objectives has been initiated since 1999. Some of such programs include Community based-eco-tourism, Environment and Health, Alternative energy, capacity development and so-forth.



RSPN was established in 1987 with the solitary purpose to monitor the endangered Black-necked Cranes in Phobjikha. RSPN's present role has diversified widely in the field of conservation. The organization now engages extensively in promoting sustainable livelihoods, endangered species conservation, environmental education and advocacy. RSPN also maintain flexibility to address emerging and underpinned environmental issues in Bhutan.



### Head Office

Deki Lam, Changangkha Thimphu, Bhutan,  
Phone: 975-2-322056/326130 Fax: 975-2-323189

Email: [rspn@rspnbhutan.org](mailto:rspn@rspnbhutan.org)  
[www.rspnbhutan.org](http://www.rspnbhutan.org)

Field Office, Phobjikha

Phone: 975-2-442536

Telefax: 975-2-442548

Email: [icdp@rspnbhutan.org](mailto:icdp@rspnbhutan.org)

Funded by: MacArthur Foundation, USA  
Info source: International Crane Foundation  
([www.savingcranes.org](http://www.savingcranes.org)) & RSPN